

FIGURE 1A

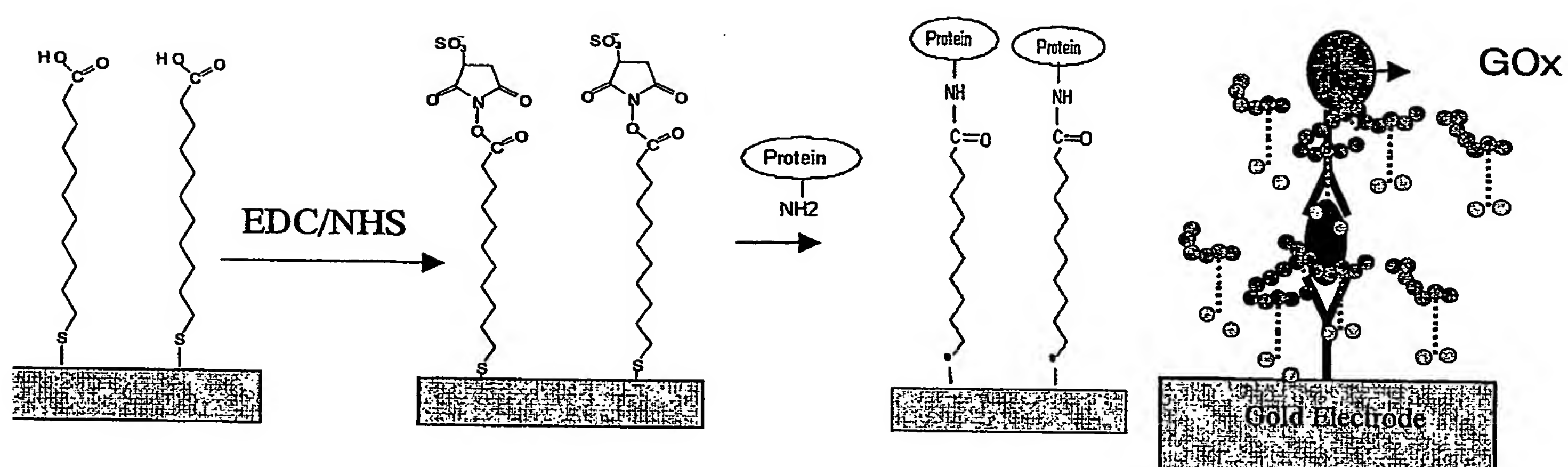


FIGURE 1B

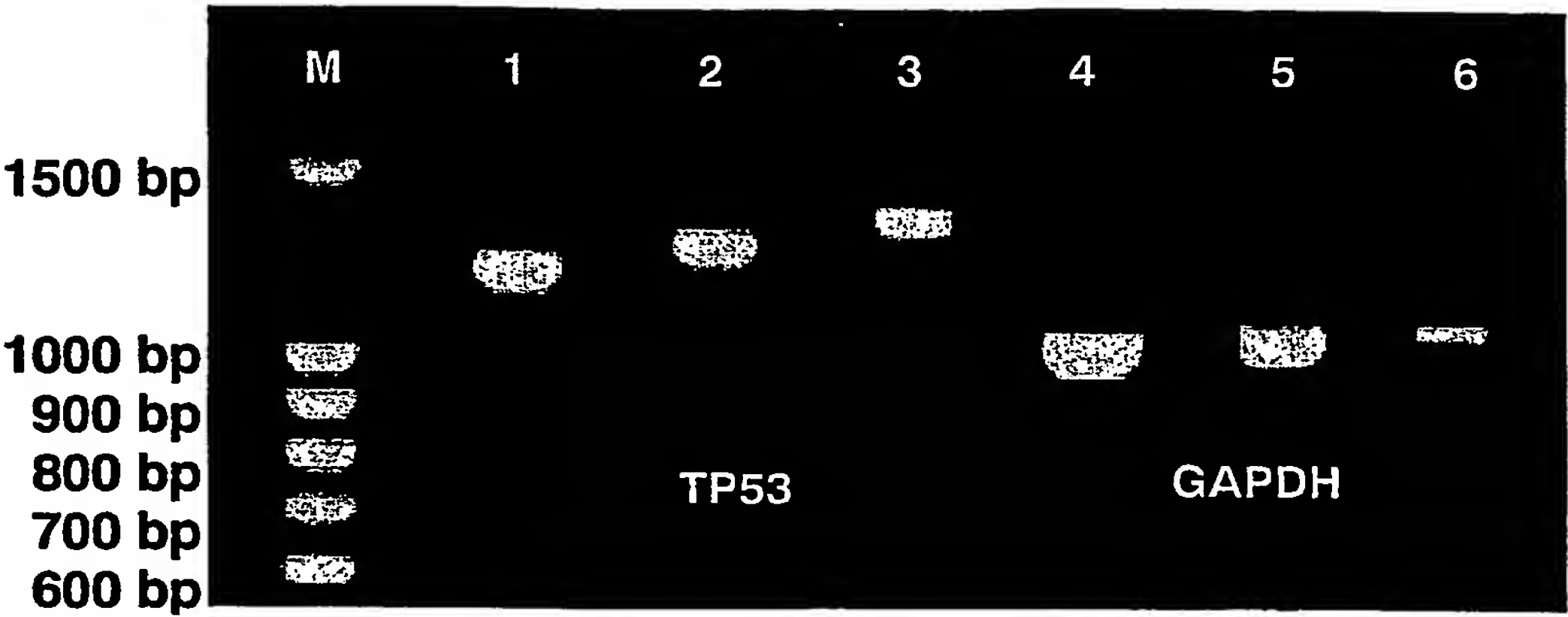


FIGURE 2

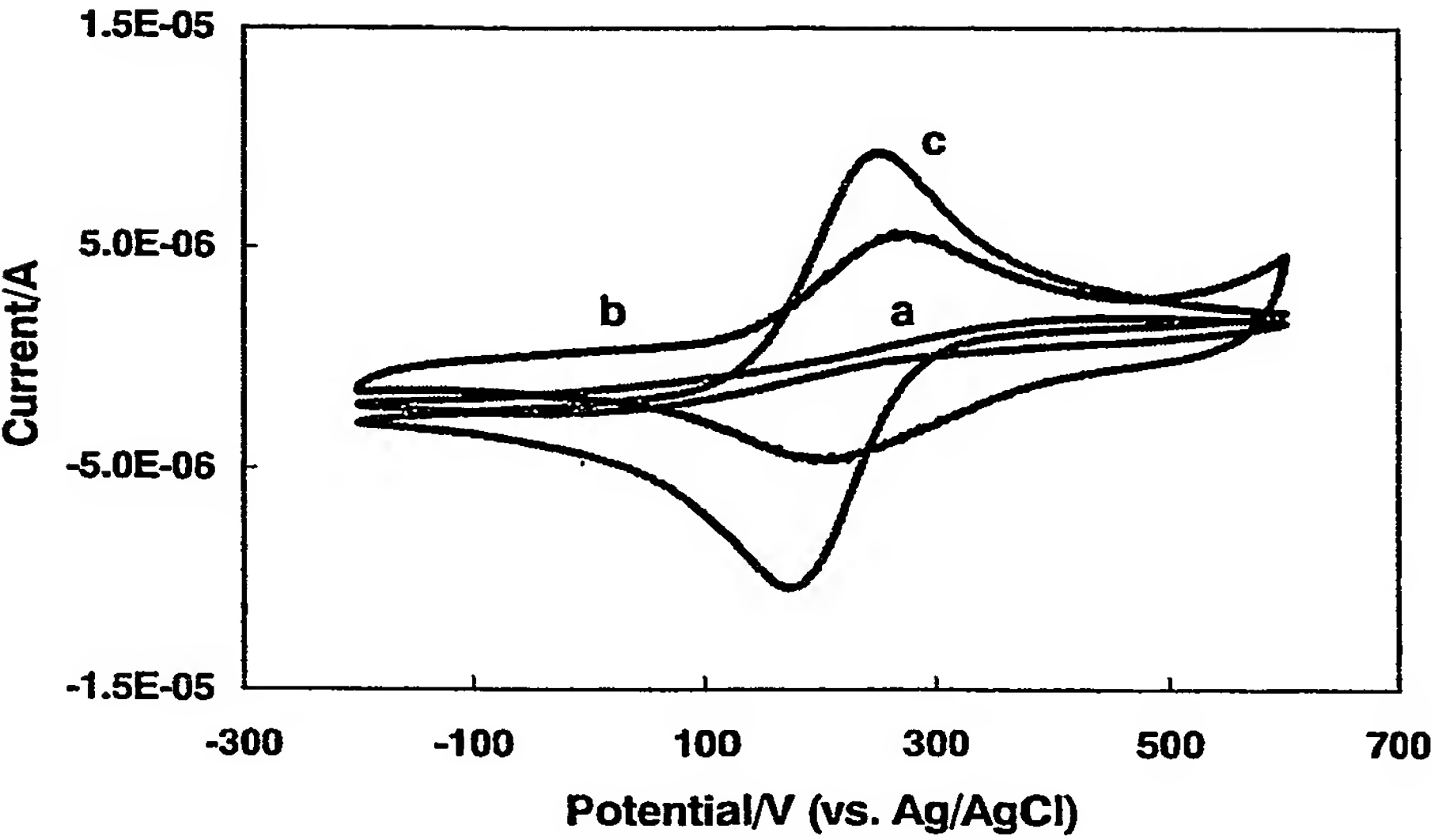
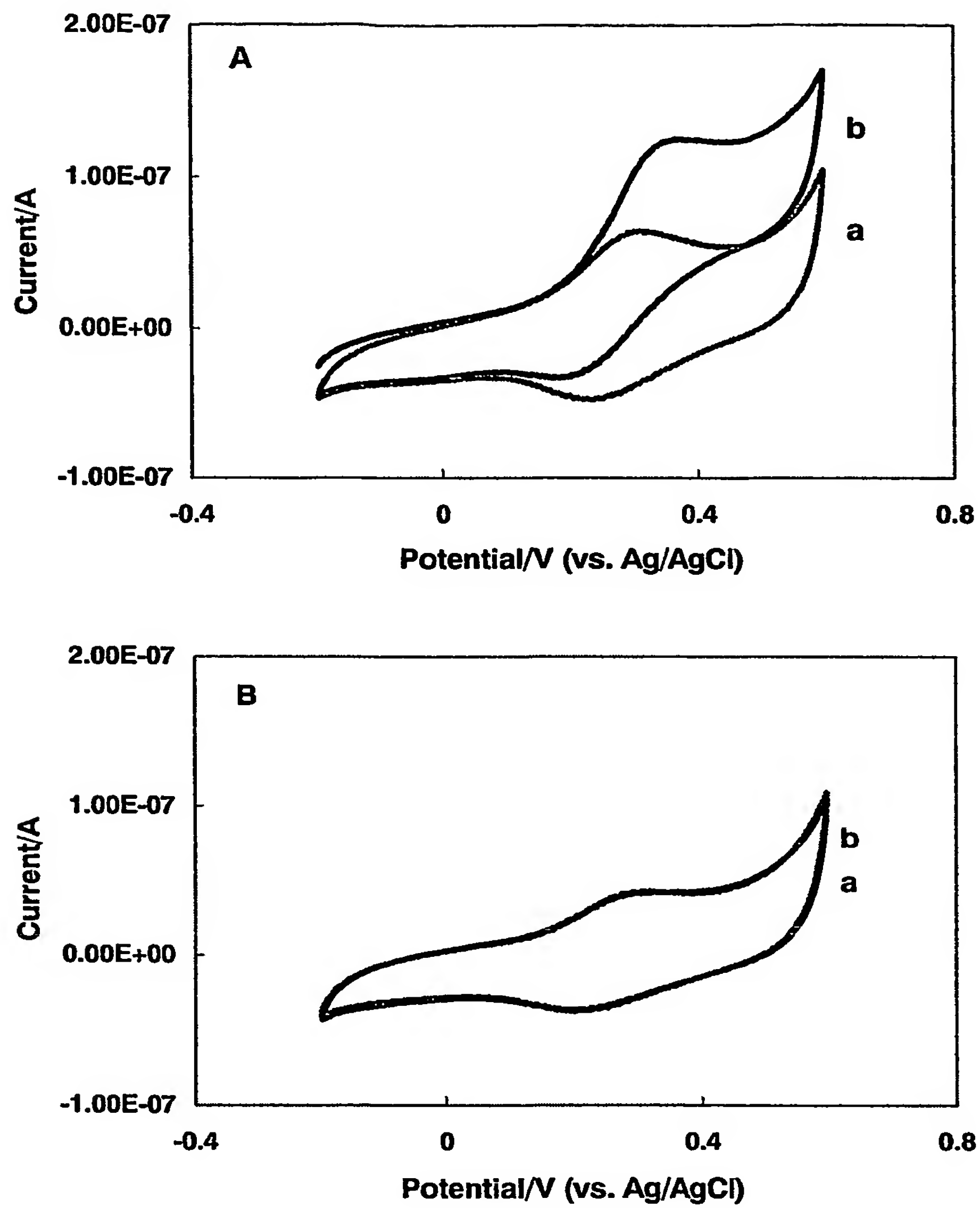
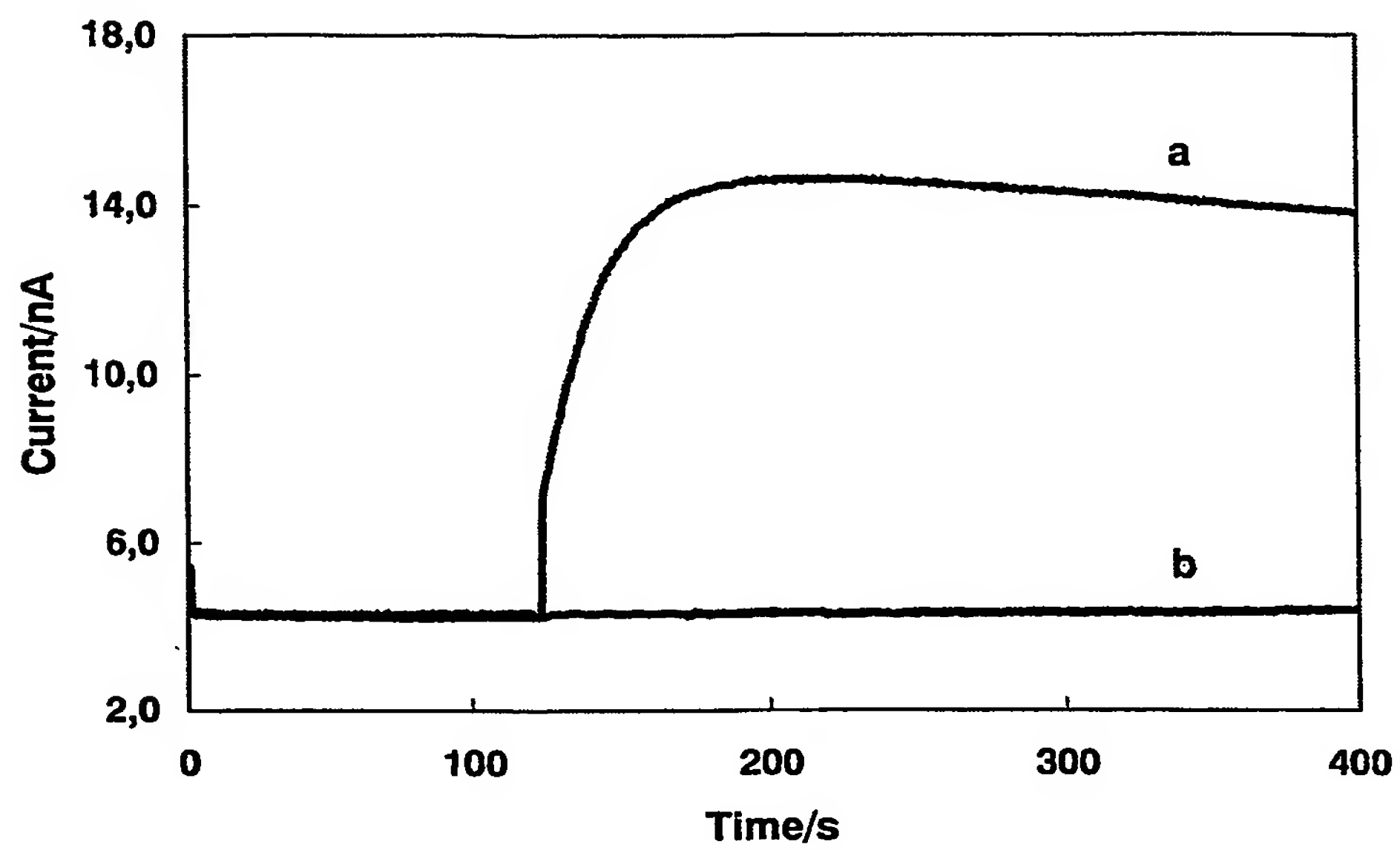


FIGURE 3

**Figure 4**

**Figure 5**

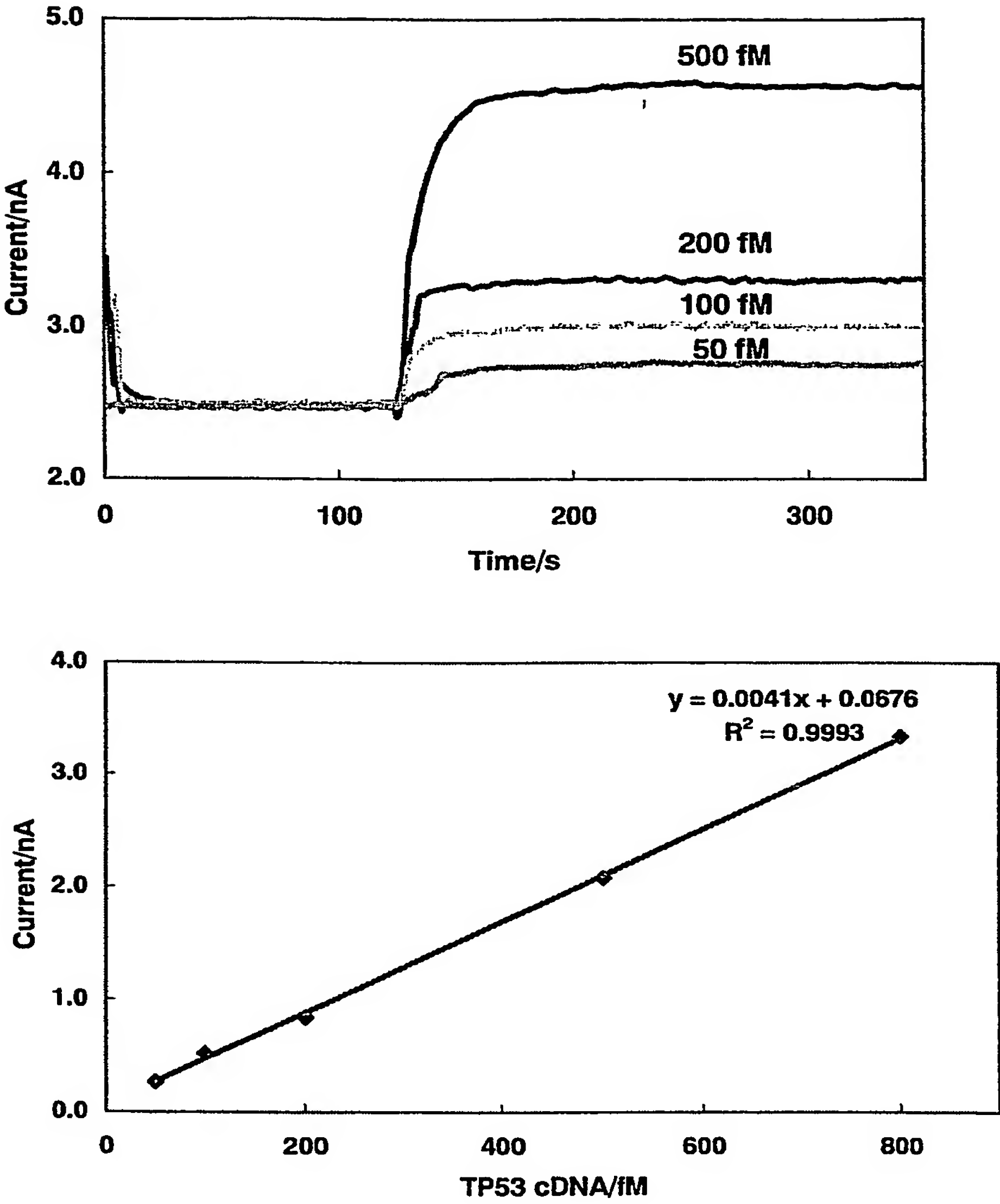
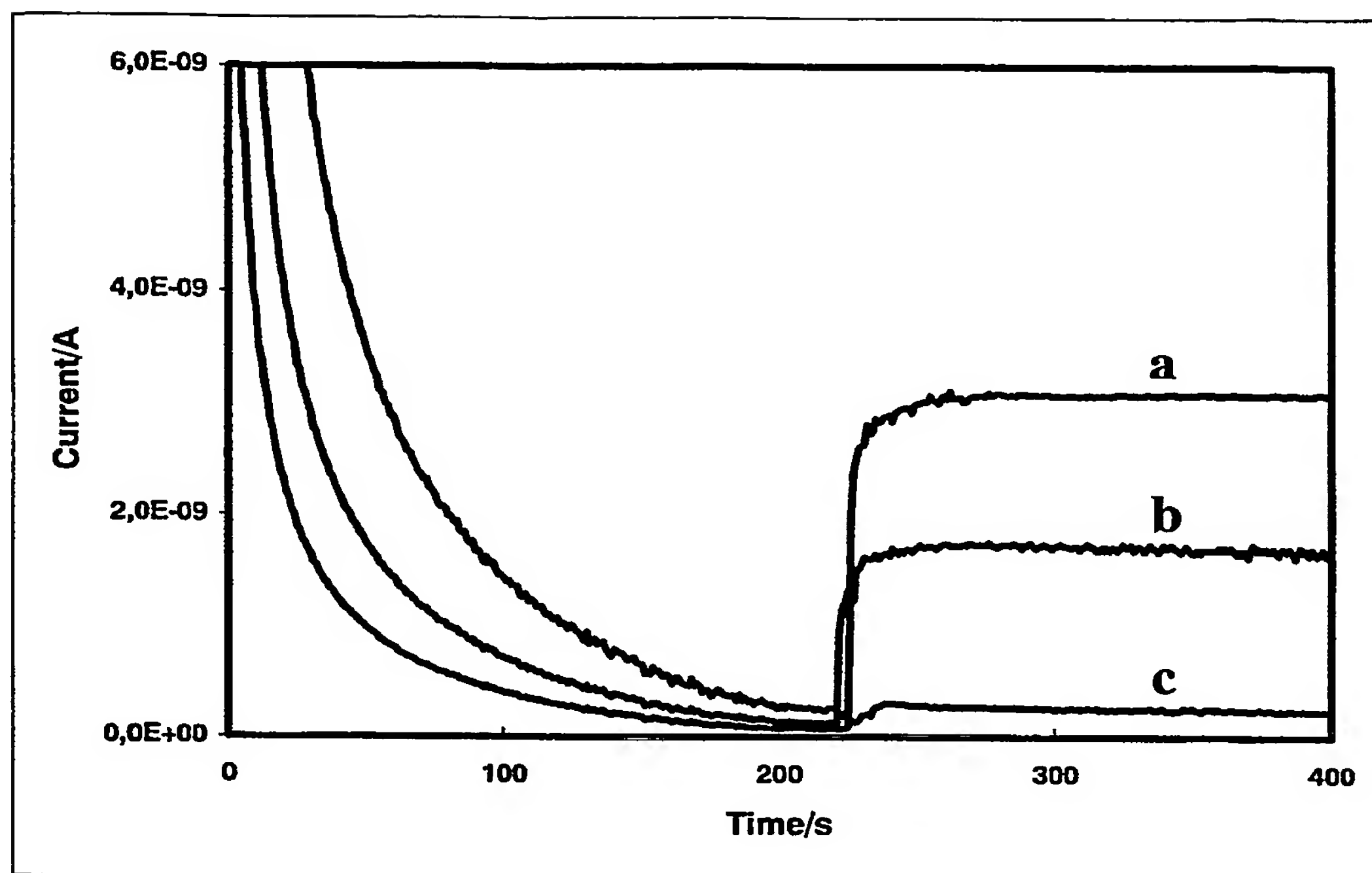
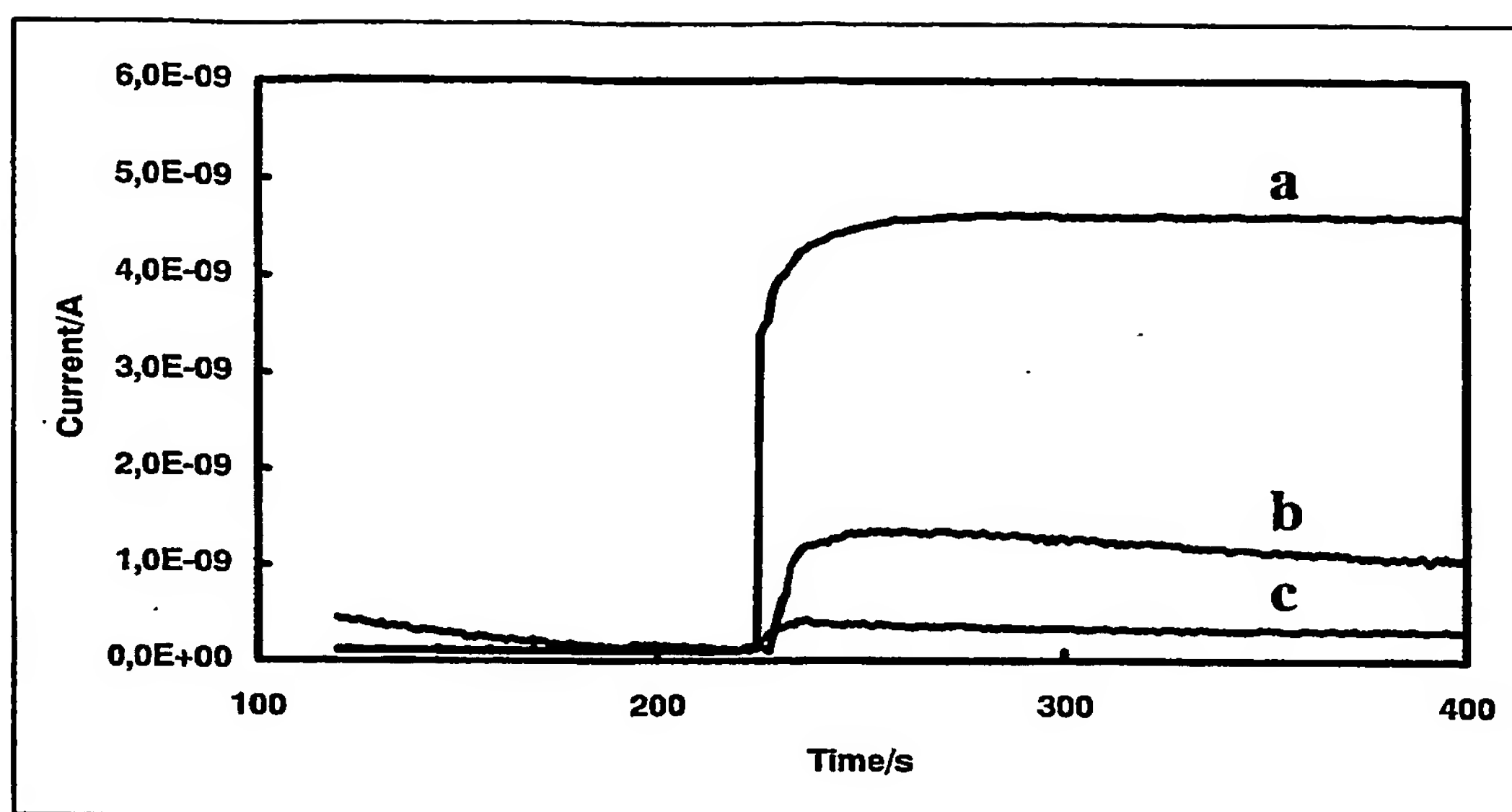
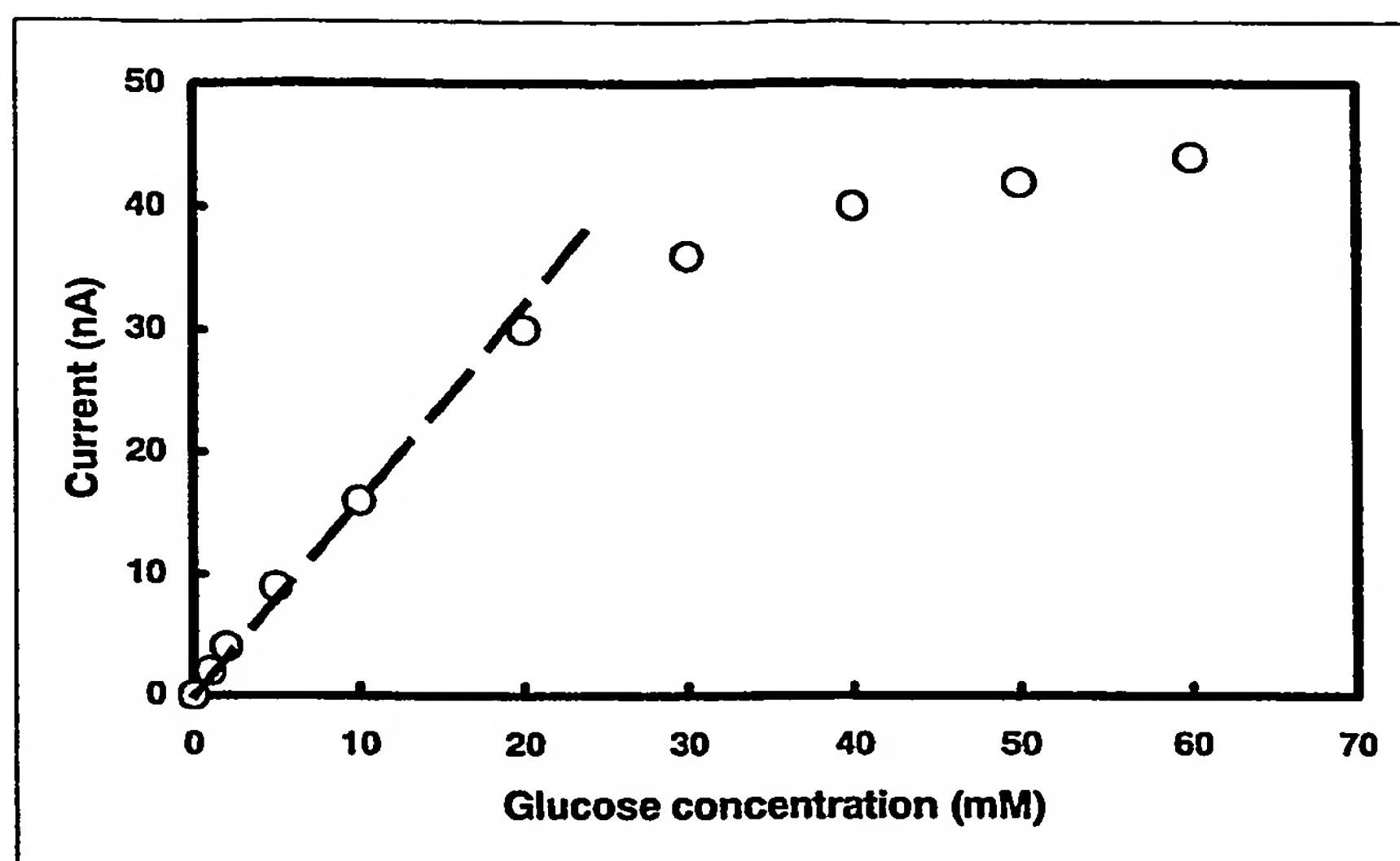


FIGURE 6

**FIGURE 7**

**FIGURE 8**

**FIGURE 9**

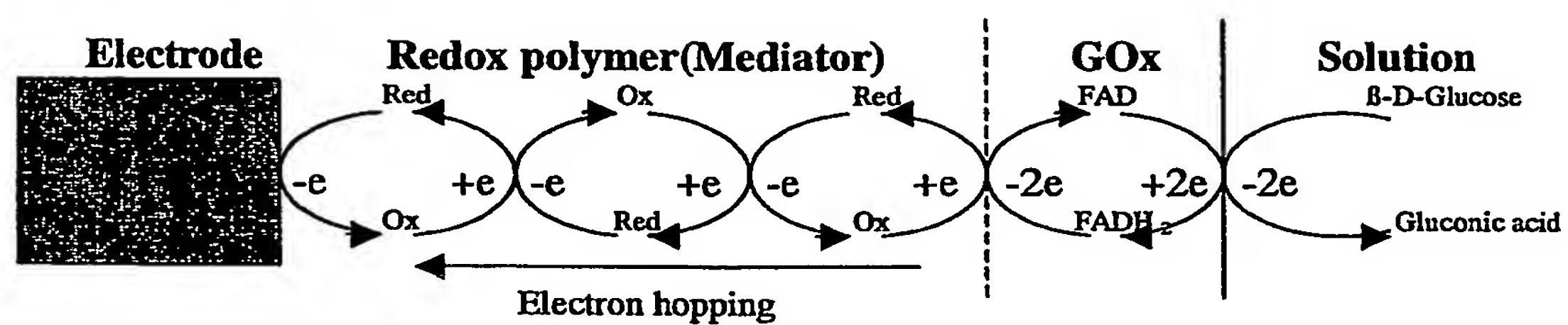
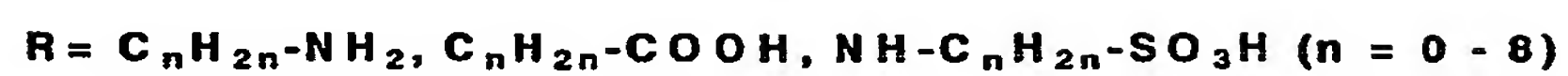
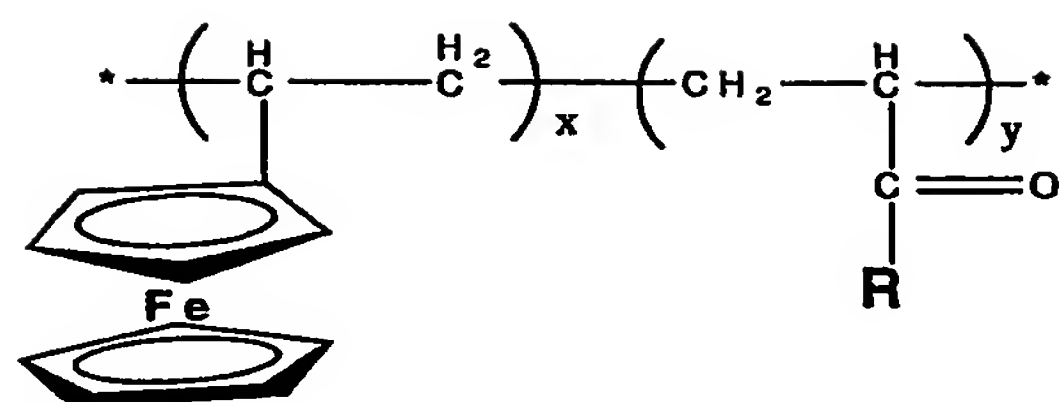


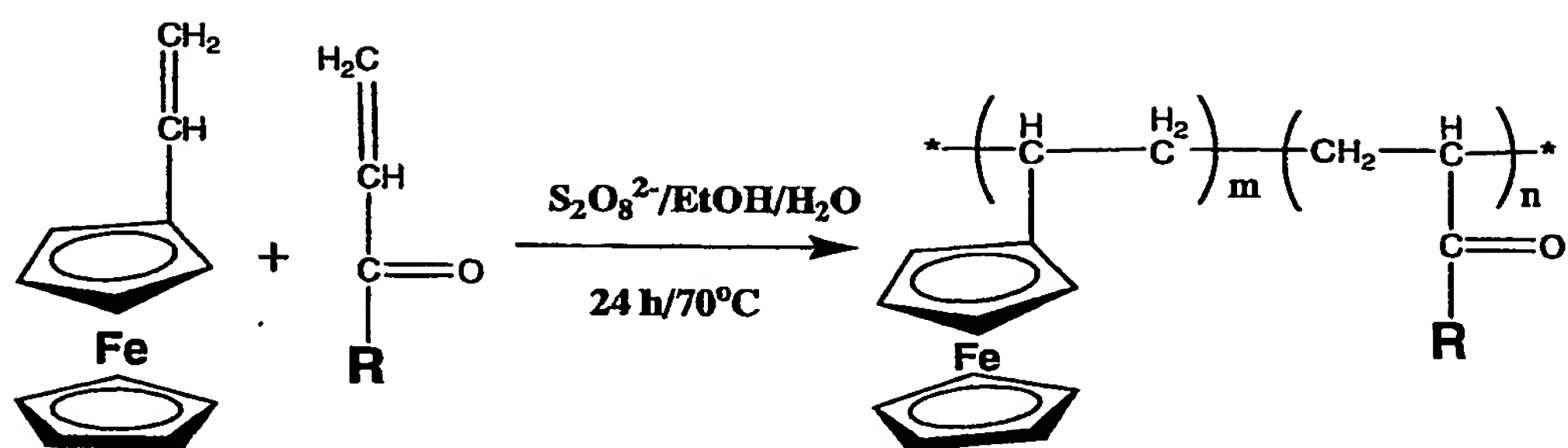
Illustration of redox polymer mediated bio-sensing process.

FIGURE 10



Structure of water-soluble and cross-linkable ferrocenyl redox polymer.

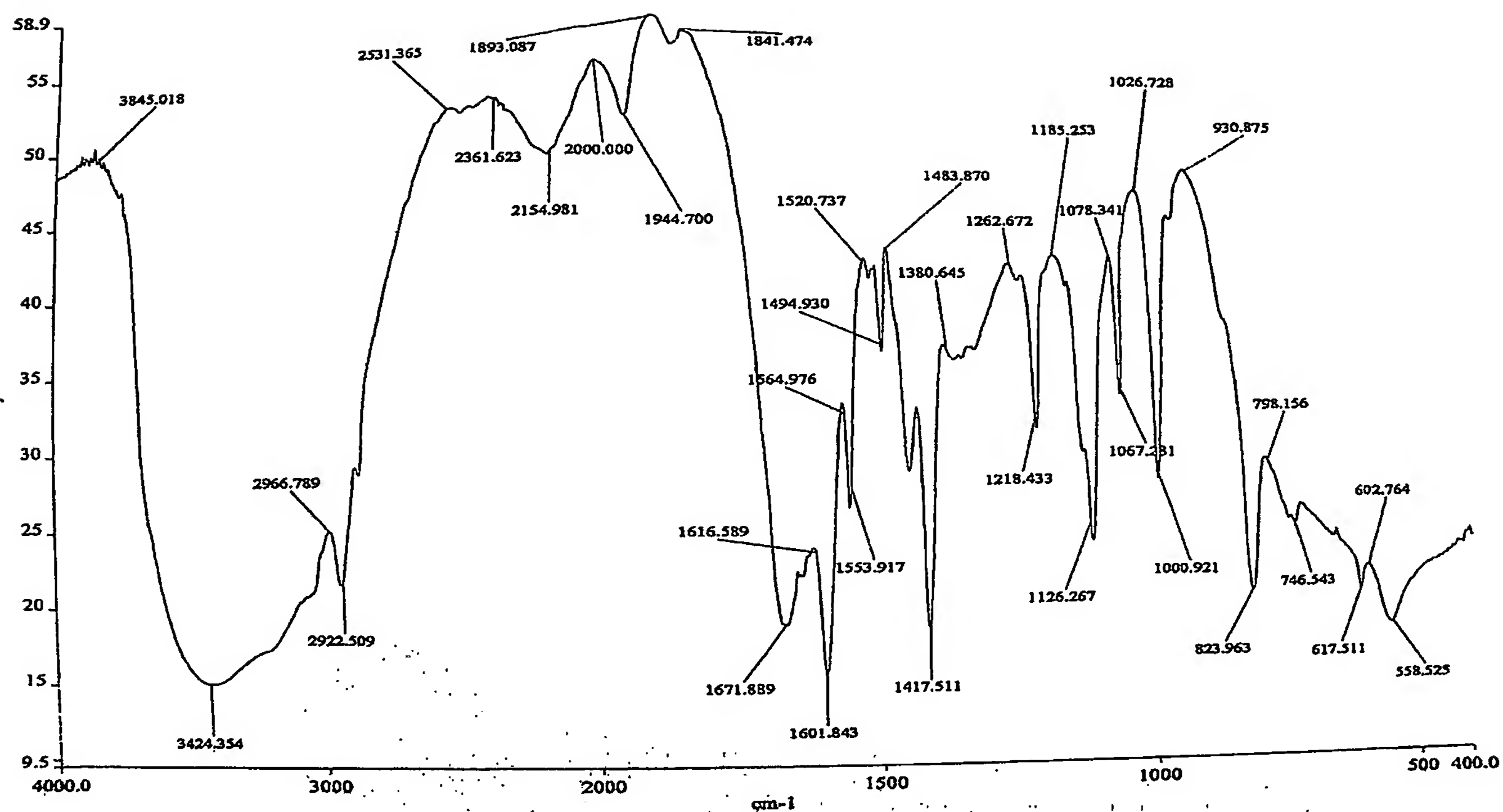
FIGURE 11



$\text{R} = \text{C}_n\text{H}_{2n}\text{-NH}_2, \text{C}_n\text{H}_{2n}\text{-COOH}, \text{NH-C}_n\text{H}_{2n}\text{-SO}_3\text{H} \text{ (} n = 0 - 8 \text{)}$

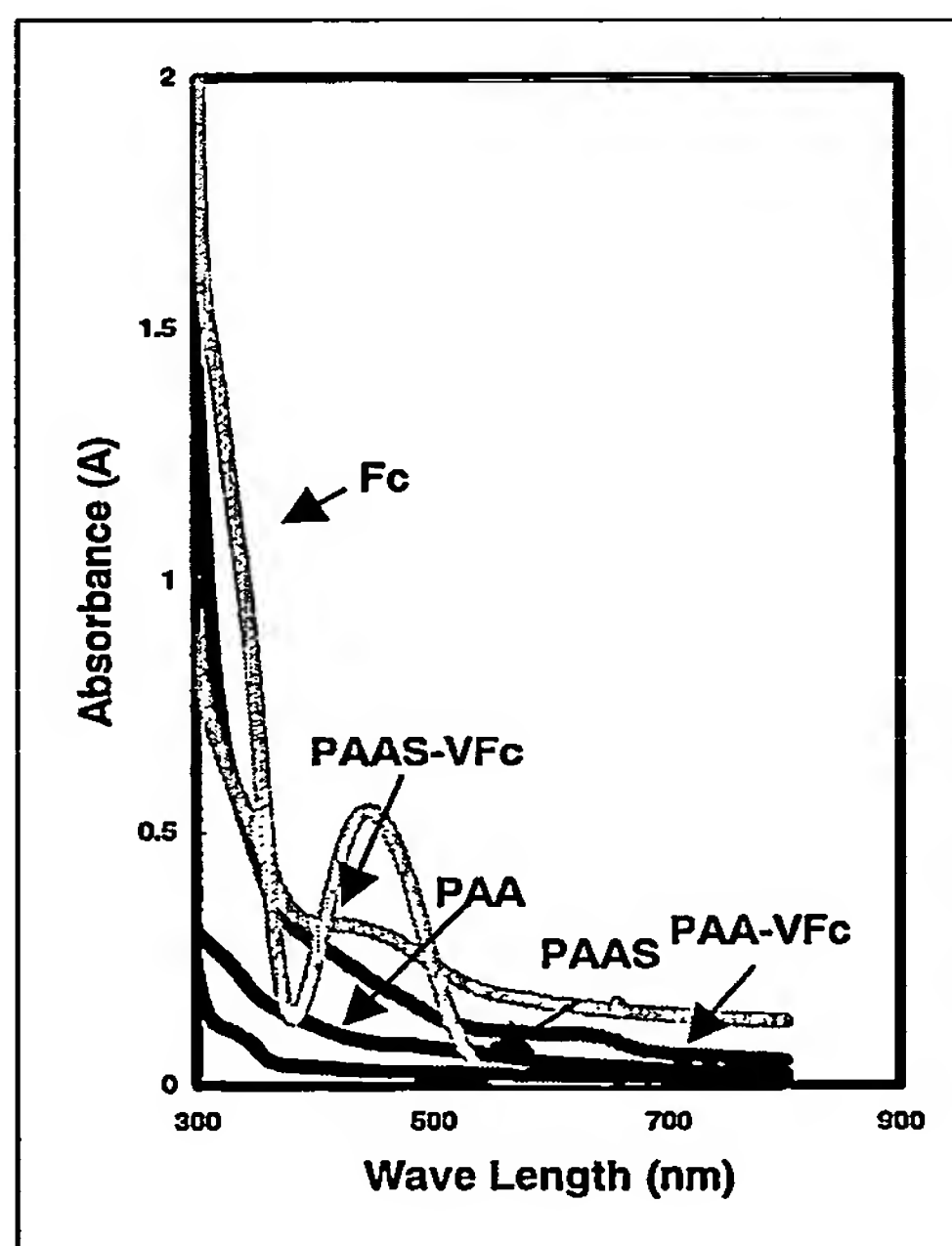
Polymerization mechanism of the redox polymer.

FIGURE 12



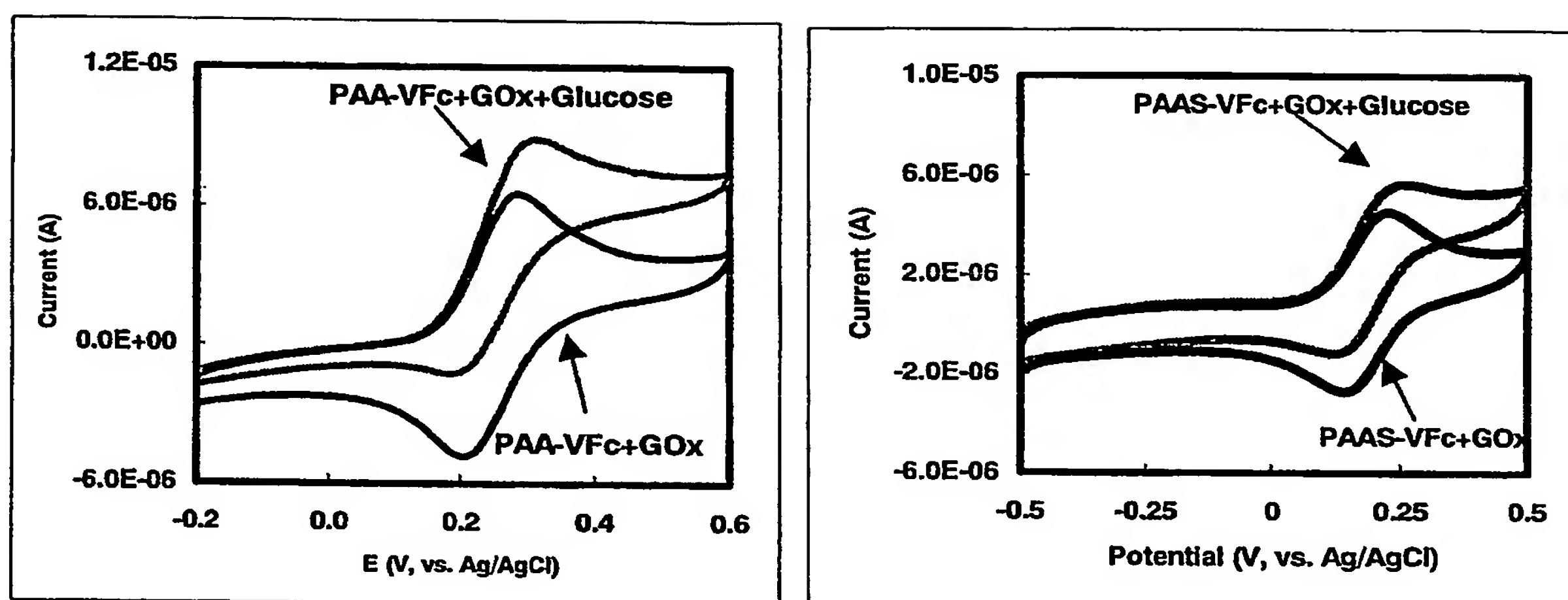
FT-IR Spectrum of PAA-VFc and PAAS-VFc redox polymer

FIGURE 13



UV-visible spectra of Fc, PAA PAAS and their VFc co-polymers.

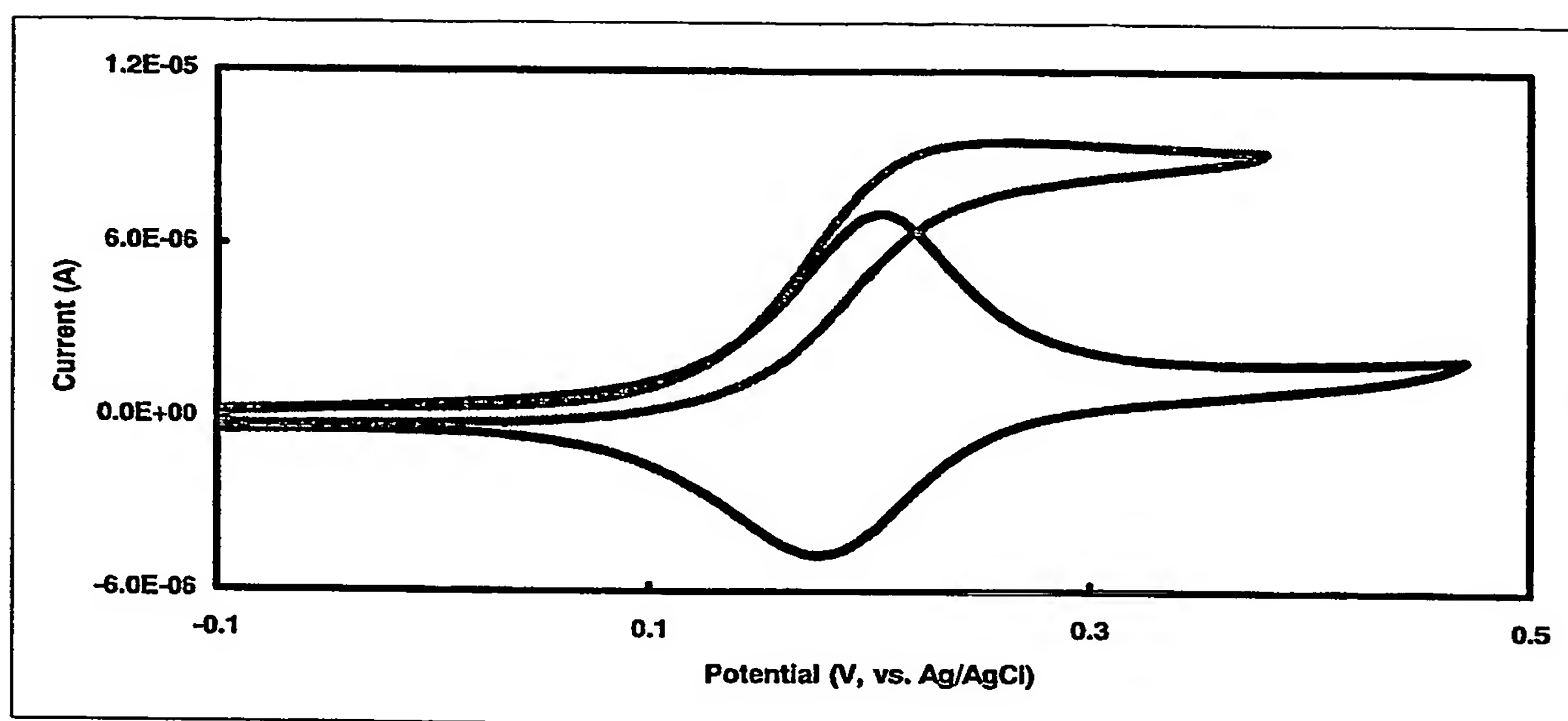
FIGURE 14



Cyclic voltammograms of redox polymers in various systems.

Phosphate-buffered saline, potential scan rate = 100 mV/s

FIGURE 15



Cyclic voltammogram of cross-linked PAA-VFc-GOx-BSA film on gold electrode.
PBS, potential scan rate 50 mV/s

FIGURE 16

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